What is claimed is:

1. A ball grid array package, comprising:

a substrate which has a top surface and an opposite bottom surface, said bottom surface having an outer array of contact pads each separated from each other by a first distance, and a center array of contact pads each separated from each other by a second distance, said center array of contact pads being separated from said outer array of contact pads by a third distance which is larger than the first and second distances; and,

a plurality of solder balls attached to said contact pads of said substrate.

2. The package as recited in claim 1, wherein said top surface of said substrate has a plurality of bond pads.

3. The package as recited in claim 2, wherein said top surface of said substrate has a ground bus that is connected to said center array of contact pads by a plurality of vias that extend through said substrate.

4. The package as recited in claim 3, wherein said outer array of contact pads has at least five rows of contact pads.

5. The package as recited in claim 4, wherein said top surface of said substrate has a power bus that is connected to said center array of contact pads by a plurality of vias that extend through said substrate.

6. The package as recited in claim 5, wherein said center array of contact pads is arranged in a four by four matrix.

7. A ball grid array integrated circuit package, comprising:

a substrate which has a top surface and an opposite bottom surface, said top surface having a plurality of bond pads, said bottom surface having an outer array of contact pads each separated from each other by a first distance, and a center array of contact pads each separated from each other by a second distance, said center array of contact pads being separated from said outer array of contact pads by a third distance which is larger than the first and second distances;

a plurality of solder balls attached to said contact pads of said substrate; and,

an integrated circuit that is mounted to said substrate and coupled to said bond pads.

8. The package as recited in claim 7, wherein said top surface of said substrate has a ground bus that is coupled to

said integrated circuit and connected to said center array of contact pads by a plurality of vias that extend through said substrate.

9. The package as recited in claim 8, wherein said outer array of contact pads has at least five rows of contact pads.

10. The package as recited in claim 9, wherein said top surface of said substrate has a power bus that is connected to said center array of contact pads by a plurality of vias that extend through said substrate.

11. The package as recited in claim 10, wherein said center array of contact pads is arranged in a four by four matrix.

12. The package as recited in claim 11, wherein said integrated circuit is enclosed by an encapsulant.

13. The package as recited in claim 7, wherein said outer array of contact pads is located outside an outer dimensional profile of said integrated circuit.

14. A method for assembling a ball grid array integrated circuit package, comprising the steps of:

a) providing a substrate which has a top surface and an opposite bottom surface, said bottom surface having an outer array of contact pads each separated from each other by a first distance, and a center array of contact pads each separated from each other by a second distance, said center array of contact pads being separated from said outer array of contact pads by a third distance which is larger than the first and second distances;

b) mounting an integrated circuit to said top surface of said substrate; and,

c) attaching a plurality of said solder balls to said contact pads.

15. The method as recited in claim 14, further comprising the step of encapsulating said integrated circuit.

16. The method as recited in claim 15, further comprising the step of coupling said integrated circuit to said substrate with a plurality of bond wires.